

REMARKS

Entry of the foregoing amendments, and reexamination and reconsideration of the subject application, pursuant to and consistent with 37 C.F.R. § 1.104 and § 1.112, and in light of the following remarks, are respectfully requested.

Amendments

Claim 4 has been amended to recite at least two pairs of electrodes, as supported at least by the specification section bridging pages nine and ten and in Fig. 5.

In addition, claims 4, 5, and 12 have been amended to recited the external electrodes as “connection elements”; and as discussed in connection with the rejection under 35 USC 112[2].

No new matter is added.

Rejection under 35 USC 112[2]

The rejection of claims 4-17 hereunder is respectfully traversed.

The rejection's hypertechnical reading of the claims in light of the specification does not explain why one of ordinary skill in the art would not understand the claims as written.

One of those canons is that claims are construed as one skilled in the art would understand them in light of the specification of which they are a part. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1575, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). Indeed, a patentee may be his or her own lexicographer by defining the claim terms. Another one of those canons is that a patentee need not define his

invention with mathematical precision in order to comply with the definiteness requirement. *In re Marosi*, 710 F.2d 799, 802-03, 218 USPQ 289, 292 (Fed. Cir. 1983).

Oakley Inc. v. Sunglass Hut International, 65 USPQ2 1321, 1326 (Fed. Cir. 2003) (emphasis added).

It is clear, for example, reading the specification section bridging pages six and seven, that there are internal electrodes (e.g., 25a) which are connected with external electrodes (e.g., 27) which in turn can be connected to a PCB through a wire. That the claims are not *in haec verba* as the specification does not render the claims indefinite. E.g., *In re Tomlinson*, 150 USPQ 623, 628 (CCPA 1966) (for distinguishing the prior art).

As the communication posits, the electrodes on the outside of the device are the terminals through which the electric piezo effect is transmitted to another device; and as opposed to the internal electrodes traversing the device connecting outside electrodes together. To make the claim perhaps simpler to read, the external electrodes through which the external connections are made are now recited as "connection elements" to include the outside electrodes/terminals and the connection wires or FPC. Accordingly, this rejection should now be withdrawn.

Rejections under 35 USC 103(a)

1. Claim 4 stands rejected hereunder as obvious over JP '327 and JP '433, which rejection is respectfully traversed.

As now amended, claim 4 requires at least two of the second connection elements to be present on the second longitudinal half (e.g., output half) of the device.

These references each teaches that only a single connection element should be present on the second longitudinal half of the device to prevent physical failure (fracture) of the connections between the piezoelectric element (via the connection element) and the output element to which it is connected. Hence, the connection element is positioned in each device is at the point of zero displacement during vibration: line 2a in the JP '327 reference (see Fig. 6) and line 2b in the JP '433 reference (see Fig. 10); translations of these references are available via the Japanese Patent Office website. That is why the end output electrode (5) in the JP '327 device is connected by conduction patterns (8) to the side electrodes/connection elements (7), to avoid fracture between the connection element (7) and the lead wire (9).

These references thus teach away from having any connection point on other than the zero displacement vibration point.

Still further, the end of claim 4 requires the second electrodes to be kept at the same potential. As described at page 10 (lines four to six) of the present specification, such a structure makes the vibration longitudinally symmetrical, thereby reducing audible sound.

Accordingly, having two connection elements on the second longitudinal approximate half is contrary to the reference's teachings and would not have been obvious from either reference.

2. Claims 7-9, depending effectively on claim 10, stand rejected as obvious over JP '327 and JP '433, which rejection is respectfully traversed.

Claim 10 requires as a fixing member an elastic material, which is not disclosed in any of these references. The "heights" in the JP '327 reference appear to be formed from the same green ceramic sheet that is laminated and baked to make the multilayer ceramic device disclosed therein. Accordingly, the rejection these claims should now be withdrawn.

3. Claims 5 and 6 stand rejected as obvious over Kanayama, Yamamoto ("Yamada" is cited in the third full paragraph of page three of the communication, it is believed incorrectly), or Sato in view of JP '033 or JP '327, which rejection is respectfully traversed.

These claims depend effectively on claim 4, which now recites two connection elements at one end, thereby avoiding the JP' 327 reference, as noted previously.

The JP '033 reference uses springy lead wire connectors (16, 17) to avoid the same fracture problem mentioned above, and to avoid breaking the plastic "support pillars" (7) in which the device is housed on a circuit board.

The rejection notes that none of Kanayama, Yamamoto, or Sato discloses side electrodes, but alleges that the existence of side electrodes in other art renders the placement on the top or side as equivalents. Yet the position of the electrodes, as taught by all of these references, is important for structural integrity of the connection between the piezoelectric and the output component. The allegation that it would have been obvious to merely move an electrode from the

top/bottom to the side is without support in the references, and the motivation for such a conclusory statement must be set forth in the rejection. *In re Lee*, 61 PQ2d 1430, 1434 (Fed. Cir. 2002); 37 CFR § 1.104(c)(2). All of the cited references appear concerned with the integrity of external connections during vibration, and none of the references appears to provide examples of second electrodes maintained at a same potential internally (e.g., 25b in Applicants' Fig. 3C) or externally (e.g., short circuits between the "connection elements" in Fig. 5), which is the support for the recitation in claim 5. Therefore, the rejection of these claims should now be withdrawn.

4. Claims 10 and 11 stand rejected hereunder as obvious over Inou, Sakurui, or Shimizu, which rejection is respectfully traversed.

The unsupported statement in the rejection that the mounting location is no more that optimization is wholly without support in the references and is a conclusory statement, for there is nothing in any of the cited references to explain what parameter is to be optimized or that the elastic mounting is to be in "areas occupying 1/5 of the full length" of the device "from both ends thereof" as recited in these claims. *Lee*¹; *In re Kotzab*, 55 USPQ2d 1313 (Fed. Cir. 2000)("Even

¹ "The need for specificity pervades this authority. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317(Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459(Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination." In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); *In re* (continued...)

when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference). Thus, this rejection should also be withdrawn.

5. Claims 12-17 stand rejected hereunder as obvious over Yamamoto in view of JP '033 and further in view of Inoi, which rejection is respectfully traversed for the same reasons as in the foregoing traversal of the rejection of claims 10 and 11. Applicants recite more than the mere use of an elastic material, but recite specific areas that are not taught or suggested by the art. To allege mere "optimization" avoids practical aspects that are discussed in all of the references, namely the performance of the respective piezoelectric devices. "Selection" as alleged in the rejection is to take what is in the art and to use it in a known or obvious way. In contrast, there is no disclosure in the cited art how one might "optimize" the location areas of the claimed fixing member, and especially not to the extent of describing that the elastic mounting is to be in "areas occupying 1/5 of the full length" of the device "from both ends thereof" as recited in these claims.

The inadequacy of the combination of Yamamoto and JP '033 has been discussed above. Inoi adds little to this combination other than stating that the position "at which ring-shaped elastic body 4 is mounted . . . is set so that it may

¹(...continued)
Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references").
In re Lee, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002)

be within a range of 3mm or less from the node position of vibration" (col. 9, Ins. 43-44). Though Inoi does discuss noise (column 9, Ins. 45-55), the correlation is to the position of the vibration nodes and not with regard to the length of the entire device and the ends of the device. Therefore, this rejection should be withdrawn.

Conclusion

In light of the foregoing, withdrawal of all the rejections is believed to be in order, and such is solicited. Should any rejection be maintained, clarification thereof in light of the foregoing is requested.

Respectfully submitted,



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